

**Amendments to the Claims:**

This listing of the claims will replace all prior versions, and listings, of claims in the application.

**Listing of the Claims:**

1. (*Original*) A cholesteric liquid crystal display for producing gray scale images, comprising:

- a) a layer including a polymeric host material, cholesteric liquid crystals in the host material and having a selected domain size, and a surfactant, the materials in the layer selected to cause the cholesteric liquid crystals to be effective in a number of different states of reflectivity and will remain in any given state until a field is applied;
- b) electrodes disposed relative to the layer for applying an electric field to the layer when a voltage is applied to the electrodes; and
- c) means for applying at least one voltage pulse to the electrodes which cause the direct change of the cholesteric liquid crystals from any initial state to a particular state within a selected gray scale.

2. (*Original*) A cholesteric liquid crystal display for producing gray scale images, comprising:

- a) a layer including a polymeric host material, cholesteric liquid crystals in the host material and having a selected domain size in a range of 4 to 20 microns, the layer having a dry thickness less than 15 microns, and a surfactant, the cholesteric liquid crystals being effective in a number of different states of reflectivity and will remain in any given state until a field is applied;
- b) electrodes disposed relative to the layer for applying an electric field to the layer when a voltage is applied to the electrodes; and
- c) means for applying a series of voltage pulses to the electrodes which cause the direct change of the cholesteric liquid crystals from any initial state to a particular state within a selected gray scale.

3. (*Original*) A cholesteric liquid crystal display for producing gray scale images, comprising:

- a) a layer including a polymeric host material, cholesteric liquid crystals in the host material and having a domain size selected to be in a range of 4 to 20 microns, the layer having a dry thickness less than 15 microns, and a surfactant, the cholesteric liquid crystals being effective in a number of different states of reflectivity and will remain in any given state until a field is applied;
- b) electrodes disposed relative to the layer for applying an electric field to the layer when voltage is applied to the electrodes; and
- c) means for applying a series of voltage pulses to the electrodes having a predetermined duty cycle, frequency and number of pulses and amplitude, the amplitude being selected that will cause the cholesteric liquid crystals to be in a particular state within a selected gray scale irrespective of the initial state of the cholesteric liquid crystals.

4. (*Original*) A cholesteric liquid crystal display for producing gray scale images, comprising:

- a) a layer including a polymeric host material, cholesteric liquid crystals in the host material and having a domain size selected to be in a range of 4 to 20 microns, the layer having a dry thickness less than 15 microns, and a surfactant, the cholesteric liquid crystals being effective in a number of different states of reflectivity and will remain in any given state until a field is applied;
- b) electrodes disposed relative to the layer in rows and columns so that the intersection of a row and column defines pixels for applying an electric field at each intersection to the layer when a voltage is applied to the electrodes; and
- c) means for applying a series of voltage pulses to the rows and columns of the electrodes which cause the direct change of the cholesteric liquid crystals in the pixels from any initial state to a particular state within a selected gray scale.

5. *(Original)* A cholesteric liquid crystal display for producing gray scale images, comprising:

- a) a layer including a polymeric host material, cholesteric liquid crystals in the host material and having a selected domain size, and a surfactant, the materials in the layer selected to cause the cholesteric liquid crystals to be effective in a number of different states of reflectivity and will remain in any given state until a field is applied the cholesteric liquid crystals wherein for a given set of drive signals, the cholesteric material changing to a state between the focal conic and planar states irrespective of the initial state of the material;
- b) electrodes disposed relative to the layer for applying an electric field to the layer when a voltage is applied to the electrodes; and
- c) means for applying the drive signals in the form of voltage pulses to the electrodes which cause the direct change of the cholesteric liquid crystals from any initial state to a particular state within a selected gray scale.

6. *(Original)* A color display having a plurality of displays in accordance with claim 1 with the cholesteric liquid crystals in the different displays producing a different color to thereby produce a multicolored image.

7. *(Previously Presented)* A cholesteric liquid crystal display for producing gray scale images, comprising:

- a) a layer including a polymeric host material, cholesteric liquid crystals in the host material and having a selected domain size, and a surfactant, the materials in the layer selected to cause the cholesteric liquid crystals to be effective in a number of different states of reflectivity and will remain in any given state until a field is applied;
- b) electrodes disposed relative to the layer for applying an electric field to the layer when a voltage is applied to the electrodes;
- c) means for applying at least one voltage pulse to the electrodes; and
- d) said layer having a reflectance that varies continuously from a minimum value to a maximum value in response to a range of voltages applied by said means for applying at least one voltage pulse and independent of an initial state of said layer.

8. (*Previously Presented*) A cholesteric liquid crystal display for producing gray scale images, comprising:

a) a layer including a polymeric host material, cholesteric liquid crystals in the host material and having a selected domain size, and a surfactant, the materials in the layer selected to cause the cholesteric liquid crystals to be effective in a number of different states of reflectivity and will remain in any given state until a field is applied;

b) electrodes disposed relative to the layer for applying an electric field to the layer when a voltage is applied to the electrodes; and

c) means for applying at least one voltage pulse to the electrodes;

d) said layer having a common optical response curve that varies continuously from a minimum value to a maximum value within a range of applied voltage and independently of an initial state of said layer.